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10/788,519	02/27/2004	James Daren Bledsoe	10031155-01	6922
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Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525			EXAMINER NGUYEN, ALLEN H	
			ART UNIT 2625	PAPER NUMBER
			NOTIFICATION DATE 05/28/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/788,519	Applicant(s) BLEDSOE ET AL.	
	Examiner ALLEN H. NGUYEN	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-31 and 41-46 is/are pending in the application.
- 4a) Of the above claim(s) 32-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-31 and 41-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 32-40 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: They are directed to fig. 2 which was not originally presented.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 32-40 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 26-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Parry et al. (US 7,043,166).

Regarding claim 26, Parry '166 discloses a multifunctional peripheral device (Printing Device 120, fig. 2), comprising:

a memory device (Memory Module 110, fig. 1) having a memory capacity selected to store a subset of a plurality of firmware code segments (i.e., firmware components (102) are stored on a memory module (110); col. 3, lines 20-21, figs. 1-2), wherein each of the plurality of firmware code segments (i.e., firmware code (103), firmware interface (104), and other data items on the memory module (110); col. 3, lines 30-31, fig. 1) is executable to implement a corresponding function in a plurality of functions (i.e., firmware code (103) is a set of computer-readable instructions that enable the processor or controller of a printer or printing device to carry out a particular function; col. 3, lines 32-35) of the multifunctional peripheral device (multi-function peripherals, col. 1, lines 30-35), and further wherein the memory capacity is selected to preclude storing the plurality of firmware code segments in their entirety (i.e., the firmware interface (104) can be uploaded to the memory of a printing device to allow the printing device to access and execute the firmware code (103) while the firmware code (103) remains stored on the memory module (110) and is not uploaded to the memory of the host printing device; see col. 3, lines 57-62);

a control circuit (A printing device controller or processor (133), fig. 3) configured to execute a selected firmware code segment from among the subset of firmware code segments stored in the memory device (i.e., a printing device controller or processor (133) controls the operation of the printing device (130) according to firmware stored in the printing device memory (132); col. 5, lines 32-35, fig. 3).

Regarding claim 27, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), further comprising circuitry (a memory module manufacturing facility 631, fig. 6) configured to communicatively couple with a host computer (a customer terminal 610/Purchaser Computer 608, fig. 6) having stored thereon the plurality of firmware code segments (i.e., the purchaser using the customer terminal (610) can select exactly the firmware components (102, FIG. 1); col. 8, lines 21-22) from which the peripheral device obtains the subset of firmware code segments (i.e., the version of firmware, firmware patches, firmware upgrades, etc. can all be selected by the purchaser at the terminal (610); col. 8, lines 22-26, fig. 6).

Regarding claim 28, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), wherein the subset consists of the selected firmware code segment (i.e., the version of firmware, firmware patches, firmware upgrades, etc. can all be selected by the purchaser at the terminal (610); col. 8, lines 22-26, fig. 6).

Regarding claim 29, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), wherein the memory device (Memory Module 110, fig. 1) is configured to store a first flag (i.e., if the firmware components are not compatible with the hardware/software of the host printing device (determination 204); col. 6, lines 19-21, fig. 4) which when set is indicative of a presence of the selected firmware code segment in the memory device (i.e., a check for an existing firmware components may be performed (step 206); col. 6, lines 31-32, fig. 4).

Regarding claim 30, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), wherein the first flag (i.e., if the firmware components are not compatible with the hardware/software of the host printing device (determination 204); col. 6, lines 19-21, fig. 4) which when reset is indicative of an absence of the selected firmware code segment in the memory device (i.e., a non-compatibility action is carried out (step 205); col. 6, lines 21-22, fig. 4).

Regarding claim 31, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), wherein the memory device (Memory Module 110, fig. 1) is further configured to store a version indicator for indicating a version of the selected firmware code segment stored in the memory device (i.e., a replacement action (step 208) may comprise uploading only certain segments or discrete objects of firmware (102, FIG. 1) from the memory module, thereby upgrading or enhancing the existing firmware of the printing device (step 209); see col. 6, lines 48-52, fig. 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parry et al. (US 7,043,166) in view of Sugita (US 2004/0068548).

Regarding claim 41, Parry '166 discloses a computer network (Network 621, fig. 6), comprising:

a multifunctional peripheral device (Printing Device 120/a memory module manufacturing facility (631), col. 1, lines 25-30, figs. 2, 6) containing a volatile memory having a memory capacity selected to store a subset of a plurality of firmware code segments (i.e., the interface (104) may be stored in volatile memory and uploaded each time the printing device is started with an installed consumable bearing a memory module with the firmware interface (104) stored thereon; col. 7, lines 49-52, fig. 1), wherein each of the plurality of firmware code segments is executable to implement a corresponding function in a plurality of functions (i.e., the firmware code (103) on the memory module (110), when stored on a printing device, provides the printing device with the ability to perform the particular function(s) related to the computer-readable instructions of the firmware code (103); see col. 3, lines 37-40) of the multifunctional peripheral device (i.e., the firmware code (103) may be a single firmware object or may be any number of separate firmware objects for use by a printing device; col. 3, lines 41-43);

It is noted that Parry '166 does not explicitly show a host processor comprising a memory in which is stored each of the plurality of firmware code segments, the host processor communicatively coupled to the multifunctional peripheral device for transferring the subset of firmware code segments to the peripheral device on an as-needed basis.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Sugita '548. In particular, Sugita '548 teaches a host processor (Host Computer 300, fig. 5) comprising a memory (Hard Disk 304, fig. 5) in which is stored each of the plurality of firmware code segments (i.e., a download program and new firmware stored in a predetermined server may be downloaded via a LAN in advance to the hard disk of the host computer 100; page 5, paragraph [0055]), the host processor communicatively coupled to the multifunctional peripheral device for transferring the subset of firmware code segments to the peripheral device on an as-needed basis (i.e., a host apparatus is connected for mutual communications with an image forming apparatus which comprises a rewritable memory which stores the firmware and the image forming apparatus forms, in accordance with a signal fed from the host apparatus, an image which corresponds to this signal; see page 2, paragraph [0016]).

In view of the above, having the system of Parry and then given the well-established teaching of Sugita, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Parry as taught by Sugita to include: A host processor comprising a memory in which is stored each of the plurality of firmware code segments, the host processor communicatively coupled to the multifunctional peripheral device for transferring the subset of firmware code segments to the peripheral device on an as-needed basis, since Sugita stated on page 1, paragraph [0002] that such a modification would ensure an information processing system in which a host apparatus is connected for mutual communications with an image forming apparatus which comprises a rewritable memory which stores firmware.

Regarding claim 42, Parry '166 discloses the computer network (Network 621, fig. 6), wherein the memory capacity of the volatile memory precludes storing of the plurality of firmware code segments in their entirety (i.e., the firmware interface (104) can be uploaded to the memory of a printing device to allow the printing device to access and execute the firmware code (103) while the firmware code (103) remains stored on the memory module (110) and is not uploaded to the memory of the host printing device; see col. 3, lines 57-62).

Regarding claim 43, Parry '166 discloses the computer network (Network 621, fig. 6), wherein the subset consists of a single firmware code segment (i.e., the printing device can upload the firmware components (102), including, firmware code (103), firmware interface (104), and other data items on the memory module (110); col. 3, lines 29-31, fig. 1).

Regarding claim 44, Parry '166 discloses the computer network (Network 621, fig. 6), wherein the memory is configured to store a first flag which when set is indicative of a presence of the single firmware code segment in the volatile memory (i.e., a check for an existing firmware components may be performed (step 206); col. 6, lines 31-32, fig. 4).

Regarding claim 45, Parry '166 discloses the computer network (Network 621, fig. 6), further comprising a server (Communication Unit 612, fig. 6) coupled to the host

processor (Customer Terminal 610, fig. 6) through a communications network (i.e., the communication unit (612) includes a web server that the purchaser accesses through the Internet (602); col. 8, lines 60-62, fig. 6).

Regarding claim 46, Parry '166 discloses the computer network (Network 621, fig. 6), wherein the host processor (Customer Terminal 610, fig. 6) is configured to obtain firmware updates for the plurality of firmware code segments from the server (i.e., the purchaser, using the customer terminal (610) can select exactly the firmware components (102, FIG. 1) that are desired. For example, the version of firmware, firmware patches, firmware upgrades, etc. can all be selected by the purchaser at the terminal (610); col. 8, lines 22-26, fig. 6).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

He et al. (US 7,031,025) discloses combined dot density and dot size modulation.

Urie et al. (US 6,961,138) discloses image forming devices and image forming methods.

Lajoie et al. (US 2004/0015952) discloses method of remotely upgrading firmware in field-deployed devices.

Zimmerman (US 7,268,900) discloses printer formatter in a cable.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLEN H. NGUYEN whose telephone number is (571)270-1229. The examiner can normally be reached on M-F from 9:00 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on (571)-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/King Y. Poon/
Supervisory Patent Examiner, Art Unit 2625

/Allen H Nguyen/
Examiner, Art Unit 2625